

WHAT IS CLAIMED IS:

1 1. An apparatus for coating a substrate, the apparatus comprising:
2 a support that supports the substrate; and

3 at least one movable processing apparatus that can deposit a metal layer onto
4 the substrate, wherein the processing apparatus is movable between a first position adjacent
5 the substrate and a second position apart from the substrate.

1 2. The apparatus of claim 1 wherein the support comprises a conveyor
2 assembly that can move the substrate.

1 3. The apparatus of claim 1 wherein the processing apparatus in the first
2 position creates a seal around at least a portion of the substrate.

1 4. The apparatus of claim 3 further comprising a vacuum source coupled
2 to the processing apparatus for creating a vacuum in the processing apparatus around the
3 portion of the substrate.

1 5. The apparatus of claim 1 wherein the support positions the substrate
2 along a plane, wherein the processing apparatus is movable orthogonal to the plane.

1 6. The apparatus of claim 1 wherein the support positions the substrate
2 along a plane, wherein the processing apparatus is rotatable about an axis that is parallel the
3 plane of the substrate.

1 7. The apparatus of claim 1 wherein the processing apparatus comprises a
2 plurality of modular units.

1 8. The apparatus of claim 7 wherein each of the modular units has a
2 treatment plane disposed in a different plane.

1 9. The apparatus of claim 7 wherein the modular units are removable.

1 10. The apparatus of claim 7 wherein the processing apparatus comprises
2 at least three modular units

1 11. The apparatus of claim 7 wherein the processing apparatus comprises
2 between three and six modular units

1 12. The apparatus of claim 7 wherein the modular units comprise conduits

2 for communication with a vacuum source, a power source, or a gas source.

1 13. The apparatus of claim 7 wherein the modular units comprises a cavity.

1 14. The apparatus of claim 7 wherein the modular units have a triangular

2 cross section.

1 15. The apparatus of claim 7 wherein at least one of the modular units

2 comprises a heating element.

1 16. The apparatus of claim 7 wherein at least one of the modular units

2 comprises a filament and a removable cane.

1 17. The apparatus of claim 7 wherein the modular unit comprises a cutting

2 element.

1 18. The apparatus of claim 7 wherein the modular unit comprises a

2 pretreatment assembly.

1 19. The apparatus of claim 1 wherein the at least one processing comprises

2 a first and second processing apparatus, wherein the first and second processing apparatus are

3 disposed on opposing sides of the substrate.

1 20. An apparatus for metallizing a substrate, the apparatus comprising:

2 a support that can maintain at least a portion of the substrate along a first

3 plane; and

4 at least one rotatable processing apparatus that is movable substantially

5 orthogonal to the orientation of the substrate;

6 wherein the processing apparatus comprises a plurality of modular units, the

7 plurality of modular units comprising at least one of a thermoform assembly, a heating

8 assembly, a metallizing assembly, or a cutting assembly.

1 21. The apparatus of claim 20 wherein the at least one rotatable processing

2 apparatus comprises a first processing apparatus disposed on a first side of the substrate and a

3 second processing apparatus disposed on a second side of the substrate.

1 22. The apparatus of claim 20 wherein the support comprises a conveyor
2 assembly for moving the substrate.

1 23. The apparatus of claim 20 wherein the modular units are removable.

1 24. The apparatus of claim 20 wherein modular unit comprising the
2 metallizing assembly comprises a cavity for receiving and sealing the substrate.

1 25. The apparatus of claim 24 wherein the modular unit comprising the
2 metallizing assembly comprises a conduit, wherein the conduit is releasably connectable to a
3 vacuum source.

1 26. The apparatus of claim 24 wherein the modular unit comprising the
2 metallizing assembly comprises a filament and a metal source.

1 27. An in-line apparatus for creating an EMI shield, the apparatus
2 comprising:

3 a conveyor assembly that moves a substrate from a first position to a second
4 position;

5 a movable shaping assembly disposed at the first position to shape the
6 substrate;

7 a metallization assembly that can create a seal around the shaped substrate,
8 wherein the metallization assembly deposits a metal layer onto the shaped substrate; and

9 a cutting assembly disposed at the second position to cut the shaped substrate,
10 the cutting assembly being movable relative to the shaped substrate.

1 28. The in-line apparatus of claim 27 wherein the metallization assembly is
2 releasably coupled to a movable vacuum source.

1 29. The in-line apparatus of claim 27 wherein the conveyor assembly
2 positions at least a portion of the substrate along a plane, wherein the shaping assembly,
3 metallization assembly and cutting assembly are movable orthogonal to the plane of the
4 substrate.

1 30. The in-line apparatus of claim 27 wherein the shaping assembly
2 comprises a first portion disposed on a first side of the substrate and a second portion
3 disposed on a second side of the substrate.

1 31. The in-line apparatus of claim 27 wherein the metallization assembly
2 comprises an removable protective insert.

1 32. A method of manufacturing a EMI shield, the method comprising:
2 positioning a substrate on a support;
3 moving a processing apparatus adjacent to the substrate;
4 depositing a metal layer on the substrate; and
5 moving the processing apparatus away from the substrate.

1 33. The method of claim 32 further comprising creating a vacuum around
2 at least a portion of the substrate.

1 34. The method of claim 32 further comprising moving the substrate along
2 the support.

1 35. The method of claim 32 further comprising shaping the substrate
2 before depositing the metal layer.

1 36. The method of claim 35 wherein depositing requires rotating a
2 processing apparatus to rotate a shaping module away from the substrate and a metal
3 depositing module toward the substrate.

1 37. The method of claim 35 comprising cutting the shaped substrate after
2 depositing the metal layer.